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Schoolscapes
The Newsletter

special edition

Towards a Paradigm of Learning

By Eva Krakow

To carry out the Québec education reform, teachers will have to shift from a paradigm of teaching to a paradigm of learning—a demanding task, Jacques Tardif, a professor of the Université de Sherbrooke, told members of the program development committees for secondary school. The committees met for the first time on Feb. 1-2 in St-Hyacinthe.

In his presentation, entitled "From One Paradigm to Another: Towards Numerous, Significant, and Demanding Changes," Tardif explained the differences between the two paradigms. He talked about the role of competencies, the type of learning situations necessary for the shift to a paradigm of learning, and the challenges teachers will have to face as they make this shift.

The paradigm of learning

In a learning paradigm, the teacher's primary concern is that students transform information into viable and transferable knowledge. "The elements of knowledge students develop are tools that should help them understand and take action in the world," Tardif explained. "We are concerned with the quality rather than the quantity of knowledge, with structuring and integrating knowledge, and with creating many links and relationships between elements of knowledge."

Also, classroom activities stem from the students' needs and interests rather than being chosen exclusively by the teacher. Students participate in the choice of resources. Classroom activity is interactive, both among the students and with the teacher. However, Tardif warned against false equations. "Contrary to what many people are saying, the reform is not synonymous with project learning," he said. "Projects are one way of translating the reform into reality, but there are many others, such as having students do research, presenting situational problems, or asking them questions."

"In any reform, reflection on evaluation practices should go hand in hand with reflection on teaching practices and learning situations," said Tardif. In a learning paradigm, evaluation methods verify students' understanding and the competencies developed. "And since we are concerned with the development of competencies, and not just the acquisition of knowledge, we need instruments that take into account the developmental trajectory of these competencies." The portfolio is just one of several possible instruments. Tracking the development of competencies also means moving away from a situation where only some aspects of a program are considered important. Tardif gave the example of teachers who tell students just before exams, "There are only about a dozen pages that are really important." "This may enable the students to zoom in on what's essential, but it suggests a rather strange judgment on what the student has done throughout the entire year!"

What, then, constitutes proof of success? "In a paradigm of teaching, we're concerned—and I don't think I'm exaggerating—with the quantity of information the students have temporarily stored in their heads." Each year teachers have to go back

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Work Begins on Secondary School Programs

By Phyllis Aronoff

Some three hundred teachers, school administrators and pedagogical consultants from throughout Québec gathered in Saint-Hyacinthe to begin work on developing the new secondary school programs. Robert Bisaillon, assistant deputy minister for preschool, elementary and secondary education, began his opening address by welcoming them to the "great adventure" on which they were embarking.

To help the participants put their work into perspective, Bisaillon presented three broad questions: Why do we need a reform in education? What does the education reform involve? What are the challenges of the education reform for secondary education?

Why do we need a reform in education?

The simple answer to this question is that the status quo is longer adequate. We can neither go back to the past, out of nostalgia for a time when things were supposedly better, nor demand to maintain the present situation, out of fear of change. We have no choice but to look to the future.

Bisaillon pointed out that curriculum reform is only part of the education reform—although it is the part that most concerns teachers—and that some of the other parts are already in place. These include full-time daycare, after-school childcare services and the amendment of the Education Act, not only in the reorganization of the school boards but also in the redistribution of powers. He stressed that no country in the OECD gives teachers as much power as they possess in Québec.

Bisaillon's short answer to the first question is simple: if teachers are not able to look to the future, and to pre-

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over knowledge covered the previous year. "We satisfy ourselves with information the students have stored in their heads temporarily."

In a paradigm of learning, however, the main concern is the quality of understanding made possible by the competencies and knowledge students have developed. "Are these competencies and knowledge viable? Are they transferable? Do they enable the students to understand things they did not understand before? What can they do now that they couldn't do before? I am very pleased that the reform aims for learning that takes place in school to be transferable, i.e. to serve a purpose other than just school."

The role of teachers becomes one of supporting students in their learning process, helping them structure and build on their knowledge, rather than being the expert who transmits information. "As well, because we're working with complex situations, the teachers do not have all the answers. This creates interesting learning opportunities for the students, who wonder, 'How do you go about finding the answers? How can you tell if the information found is trustworthy?'"

The role of the student also changes in the shift to a learning paradigm. Students participate in constructing their knowledge. "Instead of mostly listening, they are actively engaged in processing the information so as to transform it into knowledge and competencies." They may even act as experts in cases where they have specific knowledge.

Students will work increasingly with the teacher and the other students. However, the development of this culture of cooperation—rather than one of individualism and competition—will take time. "One only has to see the reaction of students asked to work in teams on a regular basis to realize that we have not yet achieved interdependence and cooperation in the classroom." As well, Tardif said, some students still prefer straightforward lectures and exams with predictable questions (predictable because the teacher has highlighted those points beforehand). "There is a lot of talk about change among teachers, but students will have to adapt to a new role as well."

Why competencies?

Competencies are an essential aspect of the learning paradigm, Tardif said. As stated earlier, the learning paradigm aims to develop knowledge that is viable and transferable, in order to increase students' power of understanding and action. Competencies help achieve this goal because they anchor knowledge in real and complex situations.

Currently, Tardif said, knowledge is often seen as an end in itself. "People consider knowledge as an object, to be described, characterized and admired. In the paradigm of learning, however, knowledge is a tool. Knowledge is a means, a resource that allows us to plan our actions, to reflect on these actions, and to carry them out." In his experience, while many teachers may share this view of knowledge as a tool, few put it into action; most spend much more time on theory than on practice.

Creating "maximalist" learning environments

Certain types of learning situations are required in order for a learning paradigm to develop—or, more broadly, for the education reform to take place, said Tardif.

To begin with, learning situations should have a high degree of authenticity. "When I learn something in school, I should have an idea of what it corresponds to in real life, in the real world. In other words, it provides an explanation for something—it's not just a formula for which I will suddenly discover the purpose the day I decide do a bachelor's in mechanical engineering."

Learning situations should also be highly transdisciplinary. "Generally, several disciplines are needed to satisfactorily explain or understand a phenomenon," he noted—yet traditionally, impermeable barriers have separated the disciplines.

In all cases, Tardif said, the student should experience cognitive disequilibrium: the learning situation should present a significant challenge that creates a cognitive conflict, challenging what students know and understand. "In other words, their current knowledge does not enable them to fully understand the problem, or to fully carry out what is asked, so they must seek new knowledge." In resolving the situation, students also become aware of how this new learning is meaningful for understanding and acting in authentic situations.

There should be a constant movement between theory and practice, and between action and reflecting on that action. As well, evaluation should be integrated into learning situations on a regular basis. Finally, learning situations should be guided by the learning factor, not the time factor. "Some teachers say, 'I teach x minutes of x periods a year, no matter what the students learn or don't learn.' But in real life, learning time varies greatly; hence the reason for cycles, which offer more flexibility."

Dangers and challenges

Tardif concluded his presentation by warning teachers of certain pitfalls that are easy to slide into when attempting to shift to a paradigm of learning.

One mistake is to always go from simple to complex situations, rather than favouring the complex. Often, teachers leave complex situations for the end—and then don't have time for them. "If you look at the evolution of society, or you think about the complexity of situations and phenomena young people have to face, it is hard to see how school can have any meaning if it cannot give stu-

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pare their students for the future, then the teaching profession will lose its raison d'être and will disappear.

What does the education reform involve?

This is a reform in which the priority is placed on learning. This paradigm shift from teaching to learning has come about as a result of new research in educational psychology. The emphasis is on intellectual activity by students as opposed to the passive consumption of knowledge; the ability to make connections between different subjects; the ability to transfer learning to different situations; and the ability, finally, to understand the world in all its complexity. This new paradigm gives rise to an ethical, moral and professional responsibility for teachers.

It is for this reason that the mission of the school has been redefined. The mission to provide instruction is meant to be understood in the broadest sense. A competency involves the ability to demonstrate learning acquired by transferring it to a variety of situations. The emphasis on competencies does not mean ignoring knowledge, but rather putting it into perspective and connecting it to the real world.

The school's mission to socialize arises out of the fact that young people will not live in a village or a region—their job market and their learning context will be the world. They have to learn to live with people with various cultures, various values, various backgrounds. The school is the first place where they encounter rules of conduct for life in society. Even though teachers are concerned with subject content, students are individuals, and schools cannot escape the obligation to educate them to be citizens.

The school's mission to provide qualifications is equally important. Bisaillon stated that the fact that Québec students do as well as or better than those in other countries should not distract us from the more troubling fact that in many areas a substantial proportion of students do not graduate from secondary school. The school system has to consider how the choices it offers young people, the pedagogical practices it uses and the support it provides can make school more meaningful for these young people and provide them with qualifications.

The challenge for teachers

Bisaillon stressed that this reform means a qualitative change in the role of teachers, and, that, contrary to some people's fears, it will add value to the teaching profession. It represents an extraordinary challenge for teachers, in terms not only of the competencies but also of the degree of responsibility and ethical conduct it demands of them.

Bisaillon reminded the participants that if, despite all the obstacles, the elementary education program produces the kind of students it aims to produce, then secondary school teachers will find themselves in a very different situation from today. Their students will have played an active role in their learning, and they will make demands on their teachers. But the fact that this is the Internet generation makes the role of the teacher even more important, because with students doing more distance learning, the teacher has an essential role to play as a mediator between the students and their knowledge.

The challenge for schools—and also for teachers as individuals—is that of becoming communities of learners. This is exactly the challenge Bisaillon made to the participants in the program development process. While he conceded that the experience may at first be destabilizing for teachers, this destablization is a prerequisite for the construction of knowledge that is at the core of the learning experience.

The role of teachers in the program development process constitutes a recognition of their knowledge, expertise and experience and proves that, far from devaluing teachers, the education reform draws on their intellectual curiosity, professional commitment and openness to new approaches.

dents some understanding of or means to control complex situations."

The temptation to always approach topics via knowledge rather than competencies is another danger. "Because we come from an environment where knowledge has always been placed in the forefront, we are going to have difficulty placing it on the same level as competencies; we will always be tempted to slip in a bit of theory first."

Teachers should be wary of parcelling learning into segments to the detriment of integrating knowledge. "In a learning paradigm, you cannot have a language class where a teacher spends the first quarter of the year on informative texts, the second part of the year on opinion texts, the third on literary texts, etc. Obviously, my example is extreme," he noted. "Most teachers are currently somewhere along the continuum in between the two."

Another danger is to choose individual autonomy over collective autonomy. Teachers are responsible for the students' overall development, not just the one discipline they teach, or the one year they see the students. "It is essential that teachers develop a culture of professional interdependence."

Teachers should not ignore the possibilities offered by information and communication technologies. These not only provide access to information, but can serve as valuable tools that allow students to produce various types of work.

Finally, teachers should be aware of the fact that everything they do affects and shapes the students' identity and perceptions.

"I see the shift from a teaching paradigm to a learning paradigm as a rupture rather than a continuity," said Tardif. This doesn't mean we're not carrying over things that we were doing before, he said, but that there is a strong element of the unknown. The passage from one to another will therefore require courage, inventiveness, coherence—and confidence.

The Program Development Process

By Phyllis Aronoff

Margaret Rioux-Dolan, director of the Direction de la formation générale des jeunes of the MEQ, focused on the concrete organization of the process of developing the secondary school curriculum. She began by recalling the emphasis the program places on students' overall education, with contributions from the various subject areas and guided by the Program of programs. The ultimate aim is educational success as well as personal growth for all students.

The secondary school curriculum is a continuation of the preschool, elementary and secondary education program. Hence the process will be the same as that used for the preschool and elementary curriculum, which Rioux-Dolan declared highly effective in terms of both the programs produced and the impact in the schools.

The program for each subject area will be drafted by a team made up of teachers, pedagogical consultants and administrators from the schools, as well as university professors and professionals from the MEQ. Four hundred people answered the call for participants, and some three hundred were chosen, with the aim of drawing on a wide variety of expertise and experience. Each committee has representatives of school boards from every region of Québec, including English-speaking school boards, and a representative of the private schools; some members have special expertise in such areas as special education, cultural communities, information and communications technologies, vocational education. Finally, a subject specialist from the MEQ coordinates the committee's work, seconded by an expert in evaluation.

The role of the committee members is threefold: to express their ideas on content and give feedback on proposals, to gather comments from colleagues to bring into the discussion; and to play a role in future training activities on the new curriculum.

Rioux-Dolan ended by defining the purpose of these two days of reflection and discussion: to situate the curriculum in the education reform, update the participants' knowledge of the *Québec Education Program*, and to familiarize them with their mandate. She pointed out that the materials distributed included a sheet for any questions they might have in the course of the workshops, to be handed in to the workshop leader at the end of the two days.

Voices of the Younger Generation

By Phyllis Aronoff

A rather unusual part of the proceedings was the presence of two highly successful young people who spoke of their own experience as students. They were Marie-Claude Sarrazin, a law student and social activist, and Marc Boutet, a young entrepreneur. Nicole Gagnon had asked them to answer two questions: What challenges should young people have to meet in school? What kind of schools do young people need?

Marie-Claude Sarrazin, 25, is a founding member of the youth committee of the Fédération des femmes du Québec, a member of the board of directors of the Centre de développement pour l'exercice de la citoyenneté and the youngest member of the Estates-General on Language.

Sarrazin began with the confession that she didn't remember much of what she learned in high school, at least in terms of subject knowledge. What did stay with her, however, was "ways of being and models" provided by various teachers. She still has warm memories of a history teacher who introduced her to politics, a philosophy teacher who gave her a first taste of the great issues in ethics, and others who taught her to ask questions and gave her self-confidence.

According to this dynamic young woman, what students need from school is support in discovering who they are, what they want in life, and what they are capable of achieving. She feels she received this in her education, but wants to see other young people who were not as lucky given the same opportunity.

Marc Boutet founded his own software company, De marque inc, at the age of 14. In 1999, he was awarded the Arista Sun Life Prize for young entrepreneurship. He has created some 40 jobs, most of them held by young people.

Boutet was one of four co-chairs of the Québec Youth Summit, and he co-chaired the summit's work on employment for young people.

For Boutet, confidence is the basis of success. "At 15," he says, "I was crazy about music and computers. I met someone who believed in the potential of young people." This was the person who got him involved in developing a software program for a school board, which led to the founding of his company. A physics teacher taught him that "it's not the formulas that are important, it's the method of problem solving." He particularly remembers certain teachers who gave their time to extracurricular activities—one who worked with the student newspaper and another who coordinated the student band. And it was a teacher who asked him to put his computer skills to use by teaching younger students how to work with computers.

Boutet is not shy about stating what he thinks schools should be giving young people. He has a list of skills needed for success as an entrepreneur: the ability to communicate and convince, to write texts, to sell yourself, to communicate in other languages such as English and Spanish, to create and imagine, to plan, to manage information, to manage individuals and teams, to work as part of a team, to make quick decisions, to perform well. To provide all this, schools must not only be open to the world, they must bring the world into the classroom. It's a tall order!

Sarrazin and Boutet are examples of young people who made the most of their education, and have tried to give back some of what they received by helping other young people. They are both strong believers in the value of education. After all, as Sarrazin points out, "school is at the heart of democratic institutions."

The Program of programs

Nicole Gagnon gave a presentation on the Program of programs. She began by describing the context in which it was developed: globalization is sweeping economies, cultures and policies; the knowledge society is raising questions of access to information and control of information; the growing complexity of human relations is changing our understanding of the family, society and morality. This context gives rise to a need for an integrated approach to education, a need that the Program of programs attempts to meet in eight areas of lifelong learning.

Gagnon asked, "Is preparing young people to play an active role in a complex world a collective endeavour or is it 'mission impossible'?" Her answer: "If it is not a collective endeavour, then it will be 'mission impossible'!"

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